We claim:

1.   A method for implementing a multidimensional linear block code on a frame of information symbols (Inf) to be transmitted through a transmission system, the information symbols being organised in a frame with a number (k) of columns and a number (h) of rows, the method comprising the steps of:

adding to the frame of information symbols (Inf) a number (n-k) of columns of redundancy symbols (Check) having a length (h) equal to the number of rows of the frame of symbols to be transmitted; and

identifying the horizontal sequences, or rows, of information symbols and redundancy symbols as first code words,

wherein

said redundancy symbols are constructed in such a way that, by interleaving the frame of information symbols and redundancy symbols carrying out permutation of the elements of the columns, the horizontal sequences, or rows, of information symbols and redundancy symbols of the permuted columns are identified as second code words.

2.   The method according to claim 1, wherein said step of carrying out a permutation of the elements of the columns comprises a rotation of the elements of each column.

3.   The method according to claim 2, wherein each column is rotated by a number of elements equal to the progressive number of the column itself less one.

4.   The method according to claim 1, wherein it further comprises the step of carrying out a permutation between columns.

5.   The method according to claim 4, characterised in that the permutation between columns is carried out only on the columns of redundancy symbols.

6.   The method according to claim 1, wherein the redundancy symbols are organised in two or more blocks of redundancy symbols.

7.   An encoder suitable for receiving as its input a frame of information symbols to be transmitted through a transmission system and for producing as its output information symbols and redundancy symbols for correcting any transmission errors at the receiving end, said encoder including:

    input means for receiving information symbols organised in a frame with a number

        (k) of columns and a number (h) of rows;

    a first Short Block Coding that receives the information symbols and produces a first

        sequence of (n-k) redundancy symbols,

the encoder further comprising:

    at least one interleaver that receives the information symbols and produces

        corresponding interleaved information symbols;

    at least one second Short Block Coding that receives the interleaved information

        symbols and produces a second sequence of (n-k) redundancy symbols;

    a linear combiner that receives the first and at least a second sequence of redundancy

        symbols and produces a total of ((n-k)h) redundancy symbols; and

an adder that adds the information symbols and the redundancy symbols.

8.   The encoder according to claim 7, wherein said interleaver carries out a permutation of the columns.

9.   The encoder according to claim 8, wherein said interleaver carries out a rotation of the elements within each column, the rotation being by a progressive number obtained by decreasing the index of each column by one.

10.   The encoder according to claim 7, wherein means are provided for carrying out a permutation of columns, that is to say an exchange of one column with another.